

IN THE SPECIFICATION:

Please amend the paragraph beginning at page 2, line 1, with the following rewritten paragraph:

GnRh is a decapeptide endogenously produced, mainly in the hypothalamus. It is highly conserved among vertebrate species. In mammals, the GnRH gene encodes the decapeptide glu-his-trp-ser-tyr-gly-leu-arg-pro-gly (SEQ ID NO: 13) with subsequent post-translational modification of the N and C termini to pyroglutamic acid and glycnamide, respectively, producing (pyro)-~~glu-his-trp-ser-tyr-gly-leu-arg-pro-gly~~-NH₂. GnRH has been shown to play a critical role in the regulation of reproductive functions in all major vertebrates by regulating the production and release of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) from the pituitary gland. Because FSH and LH play a role in spermatogenesis and ovulation, as well as steroidogenesis, vaccines that result in the production of antibodies against GnRH lead to the suppression of reproductive function (fertility) in both males and females, and should also control secondary sexual characteristics such as gender-related behavior. In males, LH regulates steroidogenesis in Leydig cells. Thus, active immunization of males against GnRH leads to testicular atrophy and a decrease in testosterone production and testicular function, (Ladd, A. *et al.*, 1994, Biol. Reprod. 51:1076-1083; Ladd A., 1993, Am. J. Reprod. Immunol. 29:189-194). A GnRH vaccine has been approved by the United States Food and Drug Administration as an investigational new drug for the treatment of prostate cancer (Ladd A., 1993, above). The development of a GnRH immuno-contraceptive is a useful alternative to surgical sterilization in animals, and has the added advantage of being reversible, since spermatogenesis and fertility can return to normal by simply allowing anti-GnRH titers to decline (Ladd, A. *et al.*, 1989, J. Reprod. Immunol. 15:85-101). However, since GnRH is a small self peptide and has a short half-life (WO 90/02187, March 8, 1990), it is only weakly immunogenic, even when injected with a powerful adjuvant. For example, a significant proportion of animals are not able to mount an effective antibody response against GnRH when administered in Freund's complete adjuvant. In order to generate a significant antibody response, GnRH must therefore be conjugated, chemically or recombinantly, to a carrier protein.